PEER REVIEW HISTORY

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ARTICLE DETAILS

<table>
<thead>
<tr>
<th>TITLE (PROVISIONAL)</th>
<th>Patient characteristics of the Accident and Emergency Department of Kenyatta National Hospital, Nairobi, Kenya – a cross-sectional, prospective analysis</th>
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<tbody>
<tr>
<td>AUTHORS</td>
<td>Myers, Justin; Hunold, Katherine; Ekernas, Karen; Wangara, Ali; Maingi, Alice; Mutiso, Vincent; Dunlop, Stephen; Martin, Ian</td>
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VERSION 1 - REVIEW

<table>
<thead>
<tr>
<th>REVIEWER</th>
<th>Bhakti Hansoti</th>
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<tbody>
<tr>
<td></td>
<td>Johns Hopkins University</td>
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<td></td>
<td>USA</td>
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<td>REVIEW RETURNED</td>
<td>18-Jan-2017</td>
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| GENERAL COMMENTS     | This is a single site descriptive study from the Emergency Medicine Registry of Kenya conducted a single site tertiary care center. Overall concerns include that this is a superficial presentation of the date collected and the authors do not delve into how this data defines the emergency care needs of the population that presents for care at this site. The data grouping in the primary analysis (this term is used loosely since no comparative analysis are presented in this paper) do not make sense. The authors mention ICD-10 methodology for data collection but it is not clear how this data is used. The discussion appears to be a re-iteration of the results section. Most importantly the sample size and sampling strategy raise concerns about the data collection strategy. |
| Intro:               | -Starting the introduction with the Ebola epidemic makes no sense and seems like a false premise for this study. |
|                      | -Reference 14 is from a consensus conference meeting at SAEM, there is no mention of IFEM and/or AFEM research priorities in this document. |
| Methods:             | -Sample size calculation make no sense. “standard formula for the standard normal distribution and conservative estimated prevalence of 0.5%” - prevalence of what? Also this does not seem to be an appropriate methodology to calculate sample size. |
|                      | -Based on the census that is reported, a sample of every 6th patient for 3 months would yield 2492 patients, yet a majority of patients were not enrolled. This raises a red flag and there is no comment by the authors on this. It also seems surprising that only 406 patients were captured over the 3 month period, this leads to concerns for selection bias within the dataset. A registry would need to be all encompassing. |
- It seems that coding via ICD-10 seems that it would be cumbersome and resource intensive however the ICD-10 coding or the relevance of this coding strategy are not presented.

Results:
- It seems odd to group diseases a based on the WHO GBD 21 chapters. Better grouping strategies are available. This data is not particularly informative.
- Table 4 in its self is not informative I would like to know how the demographics varied in those who were HIV positive versus those who were not.
- Many of the results tables/figures are not presented and appear redundant. I would recommend that the authors half the number or figures/tables.

Minor:
- Line 29 pg 1 typo – should be at the Emergency Medicine Registry of Kenya (EMROK)

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**REVIEWER**  
Mark Bisanzo, Associate Professor,  
University of Vermont College of Medicine  
Vermont, USA  
**REVIEW RETURNED**  
26-Jan-2017

**GENERAL COMMENTS**  
Thank you for your work elucidating burden of emergencies in Kenya. The paper is well done and makes a valuable contribution to the literature. I made some notes on the paper for you with suggest on how to improve the final draft to make it more clear to the reader. This largely centers around clarifying details on how the the diagnosis were grouped (i.e. by whom)

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**REVIEWER**  
Timothy Hardcastke  
University of KwaZulu-Natal  
South Africa  
**REVIEW RETURNED**  
08-Feb-2017

**GENERAL COMMENTS**  
The strengths and limitations are noted.

Introduction is well structured and lists the challenges of the work and the uniqueness thereof

Methods adequately described and ethics aspects addressed

Results Presented in prose and tabular format and these compliment each other. Simple descriptive statistical analysis as appropriate for this type of observational study

Discussion includes most of the recent literature, however some additional discussion around Registries in LMIC’s including the work from the Clarke and Navsaria groups would be pertinent.

References are listed in the correct format and no major errors were noted

Comments or queries:
You report a "triple" burden - however you group maternal/child with non-communicable, while many other publications (from Sub-Saharan Africa specifically) describe this as a 4th disease group, given the high maternal complication rates in many LMIC’s. Please clarify why this is done in only the three groups here? Could it be that the obstetric emergencies are being missed in a similar way to the children going to PEU?

Is there a plan to extend the registry to the pediatric admission area to document the emergency case-load there as well?

REVIEWER
R Oostenbrink
Erasmus MC, Rotterdam, The Netherlands

REVIEW RETURNED
11-Apr-2017

GENERAL COMMENTS

General comments:
The authors aim a relevant topic, i.e. describing the burden of disease in A&E. Design seems proper, using prospective pilot registry. Data collection seems adequate and relevant information.

My main concern or comment is that the results and conclusion remain quite superficial (i.e. higher incidence of injury vs communicable diseases), although I think that much more information can be extracted from the available data.

Suggestions/questions to reply in more detail are listed below.

Specific:
Methods: sampling was every sixth patient. Although randomized sampling would be less biased it is a reasonable approach. Did it mean every sixth eligible patient, or every sixth patient in general. What happened if the sixth patient was not eligible, was the seventh used?

Data analysis: description of the codes is different to the results, as there appears to be a fourth category (other), please describe this complete.

Results
This section may need adjustments in particular. The figures are much more detailed than the text, please point out the most important results as observed and use the figures as illustration of the observations.

Given the distribution of age categories, it seems not normally distributed so present age with median/quartiles.

What type of triage system is used?

Hospitalization: what level of care (ICU?)
I would expect first a description of the main categories (triple burden) first, and then a detailed description of the content of the three categories, but it is presented the reverse. This is confusing with the aim and conclusion.

Authors classify presenting problems and diagnosis both to the three burden groups, but at what do the authors focus (is it presenting problem or diagnosis). I suggest the authors choose, and present the results coherently.

Table 1, please discuss significant differences among age categories (if of value)
What was the age classification based on? E.g. for infectious diseases age up to 36mo, 3-5 and 5-12 are more frequently used. So please explain

Table 2: please group the diagnoses to the triple burden groups.
Table 3: why did the authors choose for such a detailed description of head injury, what was NOT the most frequent problem (i.e. abdominal pain). The groups are too small to justify this amount of detailed information. Both table 3 and 4 could be summarized in the results instead with one/two lines, as: e.g. distribution of HIV status among age was (not) significantly different... main determinants on head injury were...

Fig 2 and 3: choose the perspective (problem or diagnosis oriented).

Discussion:
I suggest the authors address in the discussion their results, and not other hypotheses.

The paragraphs Non-communicable diseases, injuries, infectious disease and undifferentiated disease could be shortened by relating the discussion to the observations of the study. Differences between the authors observation and other registries need also to be discussed from the potential limitations of their study.

Study limitations: if bypassing triage was not random, what type of bias would this have caused (i.e. what type of patients). Similar, what type of bias could result from excluding critically ill patients.

I completely disagree that retrospective studies yield more accurate data for statistics!

Conclusion:
The conclusion is very general, and lacks the implications for practice.

**VERSION 1 – AUTHOR RESPONSE**

Reviewer: 1
Reviewer Name: Bhakti Hansoti
Institution and Country: Johns Hopkins University, USA
Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below
This is a single site descriptive study from the Emergency Medicine Registry of Kenya conducted a single site tertiary care center. Overall concerns include that this is a superficial presentation of the data collected and the authors do not delve into how this data defines the emergency care needs of the population that presents for care at this site.

**We were aiming for a baseline study to define the general population. Given the broad amount of data collected we did not want to overstate the results or attempt to define needs of this emergency care population its entirety>**

The data grouping in the primary analysis (this term is used loosely since no comparative analysis are presented in this paper) do not make sense.

**The data were grouped into conventional WHO burden of disease categories, additionally, as a way of understanding the burden of acute care in terms of the Global Burden of Disease, we also grouped the data according to the GBD methodology. We have added more rationale how we used the GBD to compare to acute care>**

The authors mention ICD-10 methodology for data collection but it is not clear how this data is used. The discussion appears to be a re-iteration of the results section.

**We have added additional discussion points>**
Most importantly the sample size and sampling strategy raise concerns about the data collection strategy.

**We have further defined these in the paper and below:**

Intro:
- Starting the introduction with the Ebola epidemic makes no sense and seems like a false premise for this study.
- **Taken into consideration, and this was removed as an introduction.**
- Reference 14 is from a consensus conference meeting at SAEM, there is no mention of IFEM and/or AFEM research priorities in this document.
- **This was revised/corrected.**

Methods:
- Sample size calculation make no sense. “standard formula for the standard normal distribution and conservative estimated prevalence of 0.5%” - prevalence of what? Also this does not seem to be an appropriate methodology to calculate sample size.
- **We have expanded this section to better state the rational and formula utilized to estimate sample size power of study.**
- Based on the census that is reported, a sample of every 6th patient for 3 months would yield 2492 patients, yet a majority of patents were not enrolled. This raises a red flag and there is no comment by the authors on this. It also seems surprising that only 406 patients were captured over the 3 month period, this leads to concerns for selection bias within the dataset. A registry would need to be all encompassing.
- **It is true that an ideal registry would capture every patient. However, given the volume of patients at KNH and our study resources, we did not have the capacity for a full registry. Therefore, we attempted to systematically sample patients. Sampling occurred during research assistant shifts, and during these shifts, every sixth patient was sampled. This method was determined a priori, in an attempt to capture a representative sample size. We have discussed more about the limitations of a full registry in this resource-limited setting.**
- It seems that coding via ICD-10 seems that it would be cumbersome and resource intensive however the ICD-10 coding or the relevance of this coding strategy are not presented.
- **Research Assistants translated free text complaints into ICD-10 coding utilizing the WHO’s online generator (http://www.who.int/classifications/icd/icdonlineversions/en/). ICD-10 coding was utilized, in the event that KNH moves toward electronic medical record keeping, ICD-10 coding is an internationally understood and accepted method of record keeping. Also, STATA 14 now has the capability to recognize these codes to allow for improved and efficient data coding. We have added this explanation in the paper. This also was in keeping with of similar studies in Kenya. (House, et al Afjem 2014)**

Results:
- It seems odd to group diseases a based on the WHO GBD 21 chapters. Better grouping strategies are available. This data is not particularly informative.
- **This was done in an attempt to add/compare to the data published by House et al, the only other tertiary care center in Kenya. I would maintain that the data is actually informative, especially at a policy level. The United States CDC produces the NAHCS annually, which is country-level snapshot of US based Emergency Care chief complaints/diagnoses based on ICD-9 coding. This document provides a basis for assessing the burden of emergency care in the US. As data systems improve throughout Kenya, the most likely evolution will be to utilize ICD-10 coding… (https://www.cdc.gov/nchs/ahcd/ahcd_data_collection.htm)**
- **Agreed, this could be fleshed out further. We will simply mention these statistics in the paper without**
the table, which follows your next point...
- Many of the results tables/figures are not presented and appear redundant. I would recommend that the authors halve the number of figures/tables.
**We have reduced the tables as recommended.>

Minor:
Line 29 pg 1 typo – should be at the Emergency Medicine Registry of Kenya (EMROK) –
**Rectified.>

Reviewer: 2
Reviewer Name: Mark Bisanzo, Associate Professor,
Institution and Country: University of Vermont College of Medicine, Vermont, USA
Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below
Thank you for your work elucidating burden of emergencies in Kenya. The paper is well done and makes a valuable contribution to the literature. I made some notes on the paper for you with suggestions on how to improve the final draft to make it more clear to the reader. This largely centers around clarifying details on how the the diagnosis were grouped (i.e. by whom)

Can you elaborate - formal triage system used or just Nurse gestalt? It seems more categories were included based on results.
**During the study period, A&E nursing were undergoing training on the South African Triage Scale (SATS), to replace the former gestault method. Since the training was not completed at the time of data collection, research assistants and the primary investigator used available patient information to estimate the triage level based on SATS methodology. I have added this clarification to the paper and the data tables.>
For consistency with other literature change this to < 5 yrs
**Agreed, this makes more sense. We have changed the tables to reflect this.>
Can you elaborate on this? How did you categorize the CC? Did more than one person group them?
**Multiple research assistants categorized the chief complaints using the WHO ICD online calculator. However, this was completed as a team effort and common classifications were agreed upon by the group and rare/vague complaints were discussed among the group and with the PI for consensus. We have included a line about this.>

I would not use category here as above you use it referring to NCD, CD, Injury, or other. Using in a different way is confusing here.

**Agreed. Have changed to state, “NCDs account for 24% of chief complaints and 35% of A&E diagnoses. Among NCD’s, cardiovascular disease was the most common condition and the second most common of chief complaints.”>

“really just some critically ill, right since attendants could consent?”
**Right. I have added the word “some”. >
Dear Dr Myers and coworkers.

Thanks for submitting your paper detailing the triple disease burden in a referral centre in Kenya, using a prospective observational approach and you detail arrival mode, diagnosis and underlying disease classification. You report a "triple" disease burden.

The strengths and limitations are noted.

Introduction is well structured and lists the challenges of the work and the uniqueness thereof

Methods adequately described and ethics aspects addressed

Results Presented in prose and tabular format and these compliment each other. Simple descriptive statistical analysis as appropriate for this type of observational study

Discussion includes most of the recent literature, however some additional discussion around Registries in LMIC's including the work from the Clarke and Navsaria groups would be pertinent.

**Dr. Navsaria has a prolific portfolio of trauma specific publications. However, we were aiming to focus on the epidemiology in SSA, mainly East Africa. Also we tended avoid trauma specific literature as we aimed to report on a comprehensive ED population. We did however, focus on head injury, as it was the most common final diagnosis. >

References are listed in the correct format and no major errors were noted

Comments or queries:

You report a "triple" burden - however you group maternal/child with non-communicable, while many other publications (from Sub-Saharan Africa specifically) describe this as a 4th disease group, given the high maternal complication rates in many LMIC's. Please clarify why this is done in only the three groups here?

**You make an excellent point, that maternal/child health could definitely be its own category. We were using the methodology from the Lancet Global burden of disease study, and we used the exact ICD-10 coding strategy in order to group it. As this is just one way to group data – future studies may do well to make Maternal Health its own category>

Could it be that the obstetric emergencies are being missed in a similar way to the children going to PEU?

**We likely missed some OB emergencies, since these patients are sent directly to L&D and bypass triage where they are managed primarily managed by OB-GYN staff>

Is there a plan to extend the registry to the pediatric admission area to document the emergency case-load there as well?

**Yes, we have completed the retrospective data portion and will be conducting a similar prospective analysis starting in June 2017.>

Reviewer: 4
Reviewer Name: R Oostenbrink
Institution and Country: Erasmus MC, Rotterdam, The Netherlands
Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below
General comments:
The authors aim a relevant topic, i.e. describing the burden of disease in A&E. Design seems proper, using prospective pilot registry. Data collection seems adequate and relevant information. My main concern or comment is that the results and conclusion remain quite superficial (i.e. higher incidence of injury vs communicable diseases), although I think that much more information can be extracted from the available data.

**Added a bit more depth about head injury.**

Suggestions/questions to reply in more detail are listed below.

**Specific:**

Methods: sampling was every sixth patient. Although randomized sampling would be less biased it is a reasonable approach. Did it mean every sixth eligible patient, or every sixth patient in general. What happened if the sixth patient was not eligible, was the seventh used? **Thank you for bringing this to our attention. We have addressed this. We systematically approached every sixth patient that was documented in the triage logbook. If the sixth patient was unavailable, we attempted to enroll the very next (seventh) patient recorded in the triage logbook, then continued with every sixth patient. We have attempted to clarify this in the methods section.**

Data analysis: description of the codes is different to the results, as there appears to be a fourth category (other), please describe this complete. **We have now discussed this in the results.**

Results

This section may need adjustments in particular. The figures are much more detailed than the text, please point out the most important results as observed and use the figures as illustration of the observations. We have removed tables that seem redundant.

Given the distribution of age categories, it seems not normally distributed so present age with median/quartiles.

What type of triage system is used?

**During study period, a formal triage system (The South African Triage Scale was actively being implemented, where there had been no prior formal system) However, this was not included in the paper as we were unsure if it would add to this particular dataset.**

Hospitalization: what level of care (ICU?)

**this was difficult to distinguish. Some patients that were ICU level of care would board for months in a separate area of the ER and although were “ICU level” would never make it there. Therefore, we chose to simplify this data to admission only**

I would expect first a description of the main categories (triple burden) first, and then a detailed description of the content of the three categories, but it is presented the reverse. This is confusing with the aim and conclusion.

**This is a good point, we have re-arranged to reflect this advice.**

Authors classify presenting problems and diagnosis both to the three burden groups, but at what do the authors focus (is it presenting problem or diagnosis). I suggest the authors choose, and present the results coherently.

**We believe there is distinct value in presenting both the chief complaint and final diagnosis as it pertains to demonstrating the burden of emergency disease**

Table 1. please discuss significant differences among age categories (if of value)

What was the age classification based on? E.g. for infectious diseases age up to 36mo, 3 -5 and 5-12 are more frequently used. So please explain

**In the adult Accident and Emergency Unit, children are mostly only evaluated for trauma, burns, or critical resuscitation. Therefore, with our small “n” of pediatrics, we wanted to group in the generally understood term of <5. We are completing a similar study in their pediatric emergency unit, where we definitely will be using smaller subcategories of pediatric age groups.**

Table 2: please group the diagnoses to the triple burden groups subcategories as well
**this cannot be done with the current table- because, there are diagnoses within ICD chapters that would fit into different GBD categories**>

Table 3: why did the authors choose for such a detailed description of head injury, what was NOT the most frequent problem (i.e. abdominal pain).

**This was the most common admitting diagnosis. This is a novel problem that is being elucidated in East Africa and LMIC’s and we believe will be of great interest to the reader, as TBI is clinically relevant and actionable.**

The groups are too small to justify this amount of detailed information.

**Eight percent of total diagnoses of head injury for admission is a massive number in an Emergency Department context.**

Both table 3 and 4 could be summarized in the results instead with one/two lines, as: e.g. distribution of HIV status among age was (not) significantly different., main determinants on head injury were…

**We agree about table 4, and therefore we have removed it.**

Fig 2 and 3: choose the perspective (problem or diagnosis oriented).

**We will remove figure 2 in order to reduce the total clutter. However, we think its very important to show the difference/comparison of chief complaint and final diagnosis – as it shows the evolution of the patient’s diagnosis from undifferentiated disease to a diagnosis.**

Discussion:

I suggest the authors address in the discussion their results, and not other hypotheses.

**Reviewer #1 stated that “The discussion appears to be a re-iteration of the results section.” Therefore, we added a little more information, to include some conjecture/interpretation of the results which leads to other hypotheses.**

e.g. first paragraph merely is introduction/summary of the problem, but not related to their observations. Second paragraph is not that informative either.

**We have revised.**

The paragraphs Non-communicable diseases, injuries, infectious disease and undifferentiated disease could be shortened by relating the discussion to the observations of the study. Differences between the authors observation and other registries need also to be discussed from the potential limitations of their study.

**we have touched on this point now.**

Study limitations: if bypassing triage was not random, what type of bias would this have caused (i.e. what type of patients). Similar, what type of bias could result from excluding critically ill patients. I completely disagree that retrospective studies yield more accurate data for statistics!

**We agree that prospective studies can yield more accurate statistics as a general rule. In the setting of the KNH, with their current data systems, certain statistics for this study may be more accurate retrospectively gained. For example, the admission rates from the prior year. Our prospective study could not capture every patient that was admitted and therefore, a chart review of the prior year would provide a more accurate assessment. So, we believe, in this imperfect setting and with limited resources, a variety of data sources, both retrospective and prospective, can provide a more complete picture of the truth of the KNH ED patient population.**

Conclusion:

The conclusion is very general, and lacks the implications for practice.

**This study was not intended to change clinical practice directly. This is elucidating data that was not present before. More likely implications of our data are to guide future research (such as a deeper dive into head injury), improve education and policies in certain areas (such as trauma), and to find ways to improve data tracking. In addition, we didn't want to overstate our results. This study attempts to define a baseline burden of disease for further work to expand upon.**
VERSIO N 2 – REVIEW

REVIEWER
Bhakti Hansoti
Johns Hopkins University
USA

REVIEW RETURNED
21-Jun-2017

GENERAL COMMENTS
The authors have adequately addressed all the comments /concerns that were highlight in the first review. One minor issue remain to be addressed: If the goal was to sample every 6th patient and The A&E registered 14,956 patients during the study period. I would anticipate enrollment to be 2492 opposed to the 449 patients identified for enrollment in the results section. This needs to be clarified and justified. Did they only consent 449 of the 2492 patients eligible? If this is addressed i would be happy to recommend the manuscript for acceptance.

REVIEWER
Mark Bisanzo, Associate Professor,
University of Vermont, USA

REVIEW RETURNED
06-Jul-2017

GENERAL COMMENTS
The reviewer also provided a marked copy with additional comments. Please contact the publisher for full details.

REVIEWER
Timothy Hardcastle
UKZN, South Africa

REVIEW RETURNED
12-Jun-2017

GENERAL COMMENTS
thanks for making the changes and revisions as requested by the numerous reviewers. This reviewer is happy to support publication. I would suggest that the debate about the need for consent for such non-interventional research be taken up with the relevant REC in Kenya as there is precedent for the waiver of consent for epidemiological research that involves no clinical interventions beyond standard care. This would ensure that future studies have a reliable and comprehensive database to work from.

VERSION 2 – AUTHOR RESPONSE

Reviewer: 3
Reviewer Name: Timothy Hardcastle
Institution and Country: UKZN, South Africa
Please state any competing interests or state ‘None declared’: None declared

Please leave your comments for the authors below
Dear Dr Myers and Colleagues

Thanks for making the changes and revisions as requested by the numerous reviewers. This reviewer
is happy to support publication. I would suggest that the debate about the need for consent for such non-interventional research be taken up with the relevant REC in Kenya as there is precedent for the waiver of consent for epidemiological research that involves no clinical interventions beyond standard care. This would ensure that future studies have a reliable and comprehensive database to work from.

Thank you for your support and for your suggestion. We will continue to pursue this option with the local ERC, on future similar studies.

Reviewer: 1
Reviewer Name: Bhakti Hansoti
Institution and Country: Johns Hopkins University, USA
Please state any competing interests or state 'None declared': None declared

Please leave your comments for the authors below
The authors have adequately addressed all the comments /concerns that were highlight in the first review. One minor issue remain to be addressed : If the goal was to sample every 6th patient and The A&E registered 14,956 patients during the study period. I would anticipate enrollment to be 2492 opposed to the 449 patients identified for enrollment in the results section. This needs to be clarified and justified. Did they only consent 449 of the 2492 patients eligible? If this is addressed i would be happy to recommend the manuscript for acceptance.

Thank you for requesting clarification and justification of this important methodological point in the paper. The 449 is less than the 2,492 patients because we used a convenience/systematic approach. We assessed every 6th patient during the RA’s working hours. Working hours were determined based on the sample size calculation and desired sample size. We have added the wording in the methods and results to better convey this.

Reviewer: 2
Reviewer Name: Mark Bisanzo, Associate Professor,
Institution and Country: University of Vermont, USA
Please state any competing interests or state 'None declared': None Declared

Please leave your comments for the authors below
I have made comments in the margin of you paper and attached here

This still needs to be more clear - what was the third RA doing? How many RAs total?

I know another reviewer asked you to justify using ICD-10 but this belongs in discussion the way it is worded here. You could add a brief clause with some info to 1st sentence of this paragraph.

Run-on fragment here. should there be an “or” in the middle?

Yes, I have edited with an “or”.

Should this be NCDs?

Yes, thank you for catching this.

I get what you are saying here (and agree) but this seems overstated. I think it is fair to say your data emphasize the need for further study and collection of data in emergency centers to better define true emergent presentations/pathology in SSA.
Although I think the statement is probably accurate, I agree that it seems overstated relative to our data. I have rephrased to state: “Our data highlight the need for further studies in emergency centers to better define the true incidence of acute care pathology in SSA.”

I see what you are trying to argue here, but the paragraph seems disjointed. Maybe combine sentence 3/4/5 to say GHI, media coverage emphasize CDs, and this may incorrectly influence government funding priorities.

I agree this was disjointed. I have reworked the paragraph as follows to better communicate the content of the paragraph:

“NCDs account for 24% of chief complaints and 35% of A&E diagnoses. Among NCD’s, cardiovascular disease was the most common condition and the second most common of chief complaints at KNH. In the Global Burden of Disease study, Lozano et al found that NCD’s, such as ischemic heart disease, have become the greatest burden of disease worldwide, in terms of years of life lost (YLL). The same study reports that in Eastern Africa, ischemic heart disease ranks #17 in YLL, and unfortunately, age-matched death rates due to NCDs are higher in developing countries. Addressing this burden is challenging since global health initiatives and media coverage (e.g., of the Ebola and Zika virus crises) have typically prioritized infectious diseases which may be influencing public perception and funding priorities. There is a need for preventive efforts and funding for improving acute care systems in Kenya to respond to the growing burden of NCD’s.”

This paragraph is copy. split into multiple paragraphs.

We took your suggestion a bit further and removed part of the paragraph. These were additional statistics that frankly, made it more difficult to read.

**VERSION 3 – REVIEW**

<table>
<thead>
<tr>
<th>REVIEWER</th>
<th>Bhakti Hansoti</th>
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<td>Johns Hopkins</td>
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| REVIEW RETURNED      | 02-Aug-2017             |

| GENERAL COMMENTS     | Thank you for addressing the comments requested in the previous revision. |
Patient characteristics of the Accident and Emergency Department of Kenyatta National Hospital, Nairobi, Kenya: a cross-sectional, prospective analysis
Justin Guy Myers, Katherine M Hunold, Karen Ekernas, Ali Wangara, Alice Mairigi, Vincent Mutiso, Stephen Dunlop and Ian B K Martin

BMJ Open 2017 7:
doi: 10.1136/bmjopen-2016-014974

Updated information and services can be found at:
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